

**DORCOPSISTRONGYLUS NEW GENUS (NEMATODA:  
STRONGYLOIDEA) FROM THE GREY SCRUB WALLABY  
DORCOPSIS VETERUM LESSON, 1827 FROM PAPUA NEW GUINEA**

by LESLEY R. SMALES\*

**Summary**

SMALES, L. R. (1982). *Dorcopsistrongylus* new genus (Nematoda: Strongyloidea) from the Grey Scrub Wallaby *Dorcopsis veterum* Lesson, 1827 from Papua New Guinea. *Trans. R. Soc. S. Aust.* **106**(1), 31-34, 30 June, 1982.

*Dorcopsistrongylus* gen. n. (Nematoda: Strongyloidea) is described from the stomach of the grey scrub wallaby, *Dorcopsis veterum* Lesson (Marsupialia, Macropodidae) from Papua New Guinea. The new genus is placed in the Cloacininae Stossich, tribe Pharyngostrongylinea Popova, *sensu* Beveridge (in press). It is most closely related to *Pharyngostrongylus* Yorke and Maplestone and *Rugopharynx* Mönig, differing chiefly in the presence of both labial crown and labial collar, and in the structure of the lip-like elements of the labial crown. *D. labiacarinatus* sp. n. (type species) is described and recorded only from *D. veterum*.

KEY WORDS: Nematoda, Strongyloidea, *Dorcopsistrongylus*, macropod, taxonomy.

**Introduction**

The nematode tribe Pharyngostrongylinea Popova, 1952 from the marsupial sub-family Macropodinae was revised by Beveridge (in press). A new collection of nematodes from *Dorcopsis veterum* Lesson, 1827 in Papua New Guinea has been found to contain a species which differs from described pharyngostrongyles and a new genus in the sub-family Cloacininae Stossich, 1899 is proposed for it. The terminology used in the description of the anterior end is that of Beveridge (in press).

**Methods**

Specimens were examined after clearing in lactophenol. Hand-cut sections were made to examine the anterior end. Specimens prepared for SEM by dehydrating in ethanol, cleaning in xylol, air-drying and coating with gold were examined with an ETEC Autoscan. Drawings were made with the aid of a Leitz drawing prism. Measurements are given in micrometers, unless otherwise stated, as the range followed by the mean in parentheses.

***Dorcopsistrongylus* gen. n.**

Cloacininae Stossich, 1899, Pharyngostrongylinea Popova, 1952: small nematodes, up to 12 mm long; body covered with fine transverse striations. Cephalic collar not distinct, pierced by two amphids and four submedian papillae. External labial crown of four lip-like elements and a labial collar, arising from internal lining of buccal capsule. Buccal capsule cylindrical, longer than wide, lining with prominent transverse striations. Oesopha-

gus long, terminal bulb clavate, surrounded by anteriorly directed extensions of intestine. Male: Spicules elongate, alate. Bursa short, lobes distinct, ventral lobes deeply indented. Ventral rays fused; externo-lateral arising separately; medio-lateral and postero-lateral rays fused; externo-dorsal originating close to lateral trunk. Female: tail conical, vulva close to anus, vagina vera thick-walled, ovejectors not parallel to long axis of body, vagina uterinae passing anteriorly from ovejectors.

Parasitic in stomach of macropodid marsupials.

Type species: *Dorcopsistrongylus labiacarinatus* sp. n.

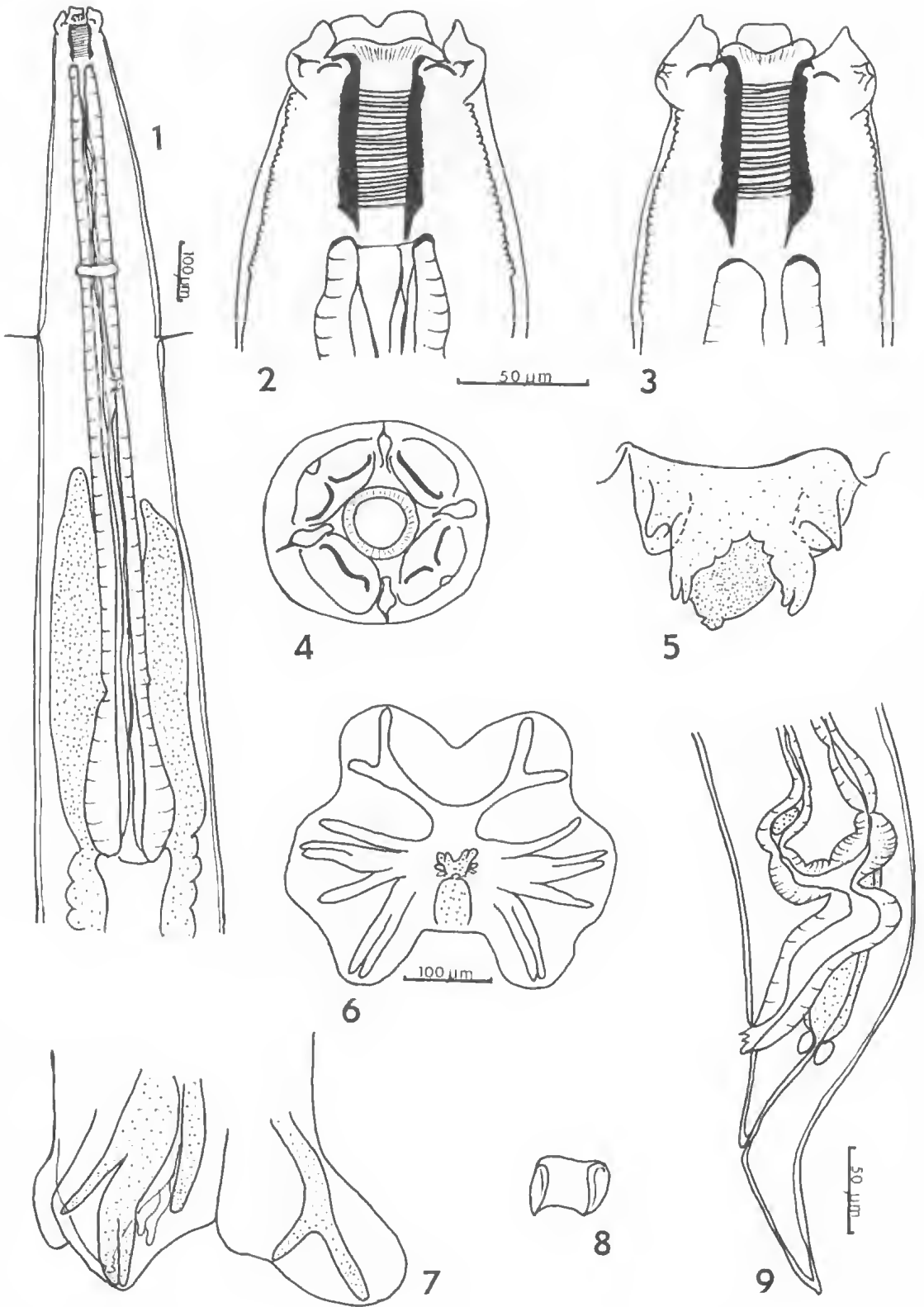
***Dorcopsistrongylus labiacarinatus* sp. n.**

FIGS 1-10

*Host and localities:* *Dorcopsis veterum* Lesson, 1827 collected by I. Redmond from Middle Strickland Area (locality of type) (8 ♂, 9 ♀); collected by J. L. Owen from Veikabu Creek, Central Province, Papua New Guinea (2 ♂). Holotype ♂ 1981.4537, allotype ♀ 1981.4538 British Museum (Natural History); additional material: British Museum and Australian Helminthological Collection, housed in South Australian Museum.

Small nematodes, body covered with fine transverse striations. Anterior end with cephalic collar, not well defined, bearing two amphids and four submedian papillae with single setae. Labial crown divided into four lip-like elements, anterior end of each raised into a ridge, two laterals bilobed, ventral and dorsal slightly bifid. Anterior end of buccal capsule with labial collar bearing fine longitudinal striae. Mouth opening circular. Buccal capsule

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cylindrical, thick walled lining with prominent transverse striations. Oesophagus about  $\frac{1}{7}$  body length, its lining strongly sclerotized, cylindrical with clavate terminal bulb following slight constriction. Nerve ring surrounds oesophagus at about  $\frac{1}{3}$  its length, deirids with long setae posterior to nerve ring; excretory pore at level nearly halfway along the oesophageal region. The anterior end of the intestine forming two large blind diverticulae projecting forwards about 250  $\mu\text{m}$ .

Male (measurements from eight specimens): body length 6–10 (9.4) mm; width 0.34–0.45 (0.4) mm; oesophagus 1290–1600 (1430); anterior end-to nerve ring 340–430 (390), to deirids 430–590 (520), to excretory pore 510–690 (634); buccal capsule 47–65 (57) long, 26–29 (27) wide; spicules 1.7–2 (1.86) mm, about  $\frac{1}{5}$  body length. Gubernaculum present. Bursa; ventral lobes deeply indented, dorsal lobe, with median cleft, slightly longer than laterals, arrangement of rays shown in Figs 6 & 7. Genital cone prominent, anterior lip large, posterior lip with one pair bifid and four other simple appendages.

Female (measurements of only entire specimen): length 11 mm; width 0.5 mm; oesophagus 1530, anterior end-to nerve ring 410; to deirids 490, to excretory pore 630; buccal capsule 68 long, 36 wide. Body narrowing anterior to vulva; tail tapering to tip 350, dorsally reflected; vulva close to anus 640 from posterior end. Uteri parallel. Ovejector not oriented parallel to long axis of body, vestibule at right angles to body wall, sphincters thick-walled 200, infundibulum relatively long, thin-walled 250, vagina vera relatively short, thick-walled 630. Eggs (10 measurements) thin-shelled, ellipsoidal 68–80 (76)  $\times$  34.5–44 (40).

### Discussion

*Dorcopsistrongylus* differs from all the pharyngostrongylinca in having a poorly defined cephalic collar and both labial crown and labial collar. It is similar to *Pharyngostrongylus* Yorke & Maplestone (1926) in the characters of the oesophagus but the lip-like elements of the labial crown do not resemble the petaloid elements present in most *Pharyngostrongylus* sp. The buccal capsule resembles that of

*Rugopharynx* Mönning (1927) (Syn. *Spirostrongylus* Mönning, 1926), *Cyclostrongylus* Johnston & Mawson (1939), *Paraugopharynx* Magzoub (1964) and a new genus described by Beveridge (in press), in having strongly marked transverse striations. *Dorcopsistrongylus* differs from each of these genera in the characters of the oesophagus.

The elements of the ovejector are similar to those of other members of the tribe and conform to the type II of Lichtenfels 1980. However the orientation of the vestibule, not parallel to the long axis of the body, differs from that of other members. This could have been a fixation artefact, but other strongyle material examined from the same source had the vestibule of the type II ovejector longitudinally disposed.

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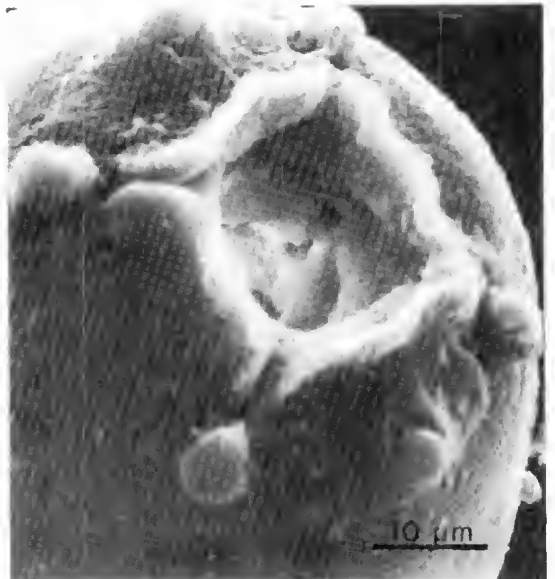


Fig. 10. *Dorcopsistrongylus labiacarinatus*: anterior end of male.

Figs. 1–9. *Dorcopsistrongylus labiacarinatus* sp.n.: 1, anterior end, ventral view. 2, head, lateral view. 3, head, ventral view. 4, head *en face* view. 5, genital cone, dorsal view. 6, bursa, apical view. 7, bursa, lateral view. 8, gubernaculum, ventral view. 9, posterior end of female, lateral view. Figs 2–5 & 8 to same scale. Figs 7 & 9 to same scale.

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